

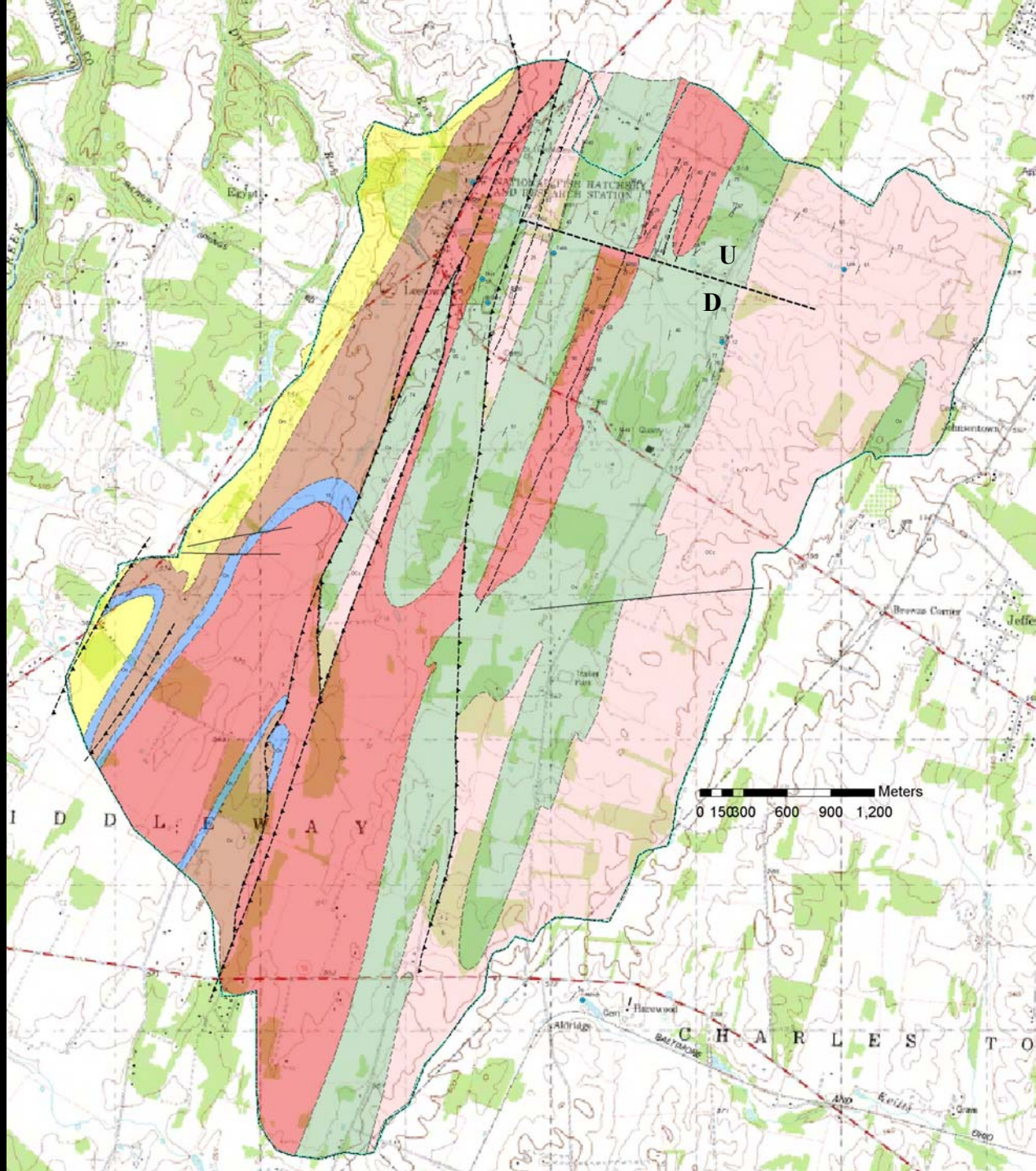
**Link Spring, Summer 2002**



**Link Spring, Late Winter 2003**

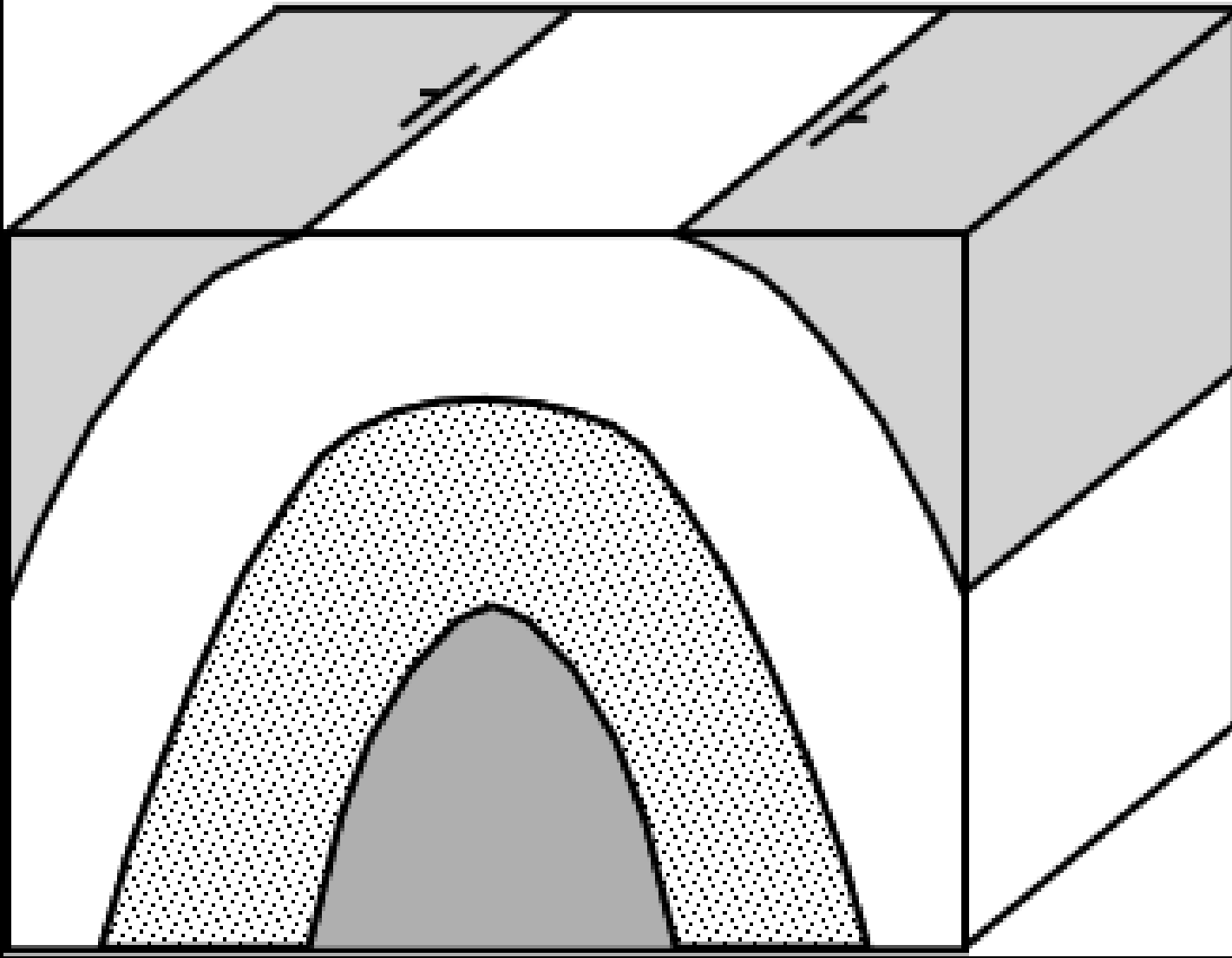




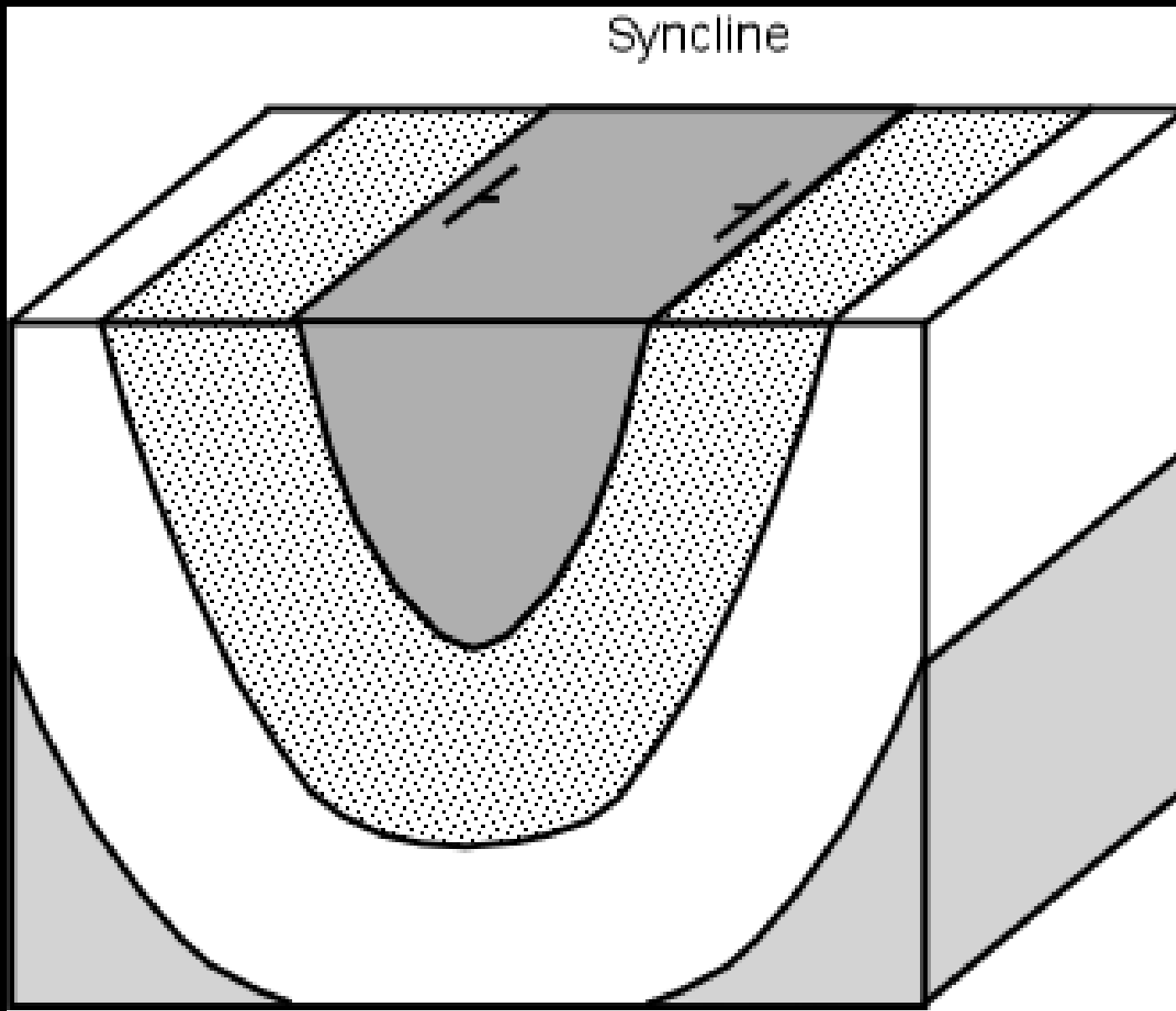


Adapted from Dean,  
Lessing, and  
Kulander, 1990

# Anticline



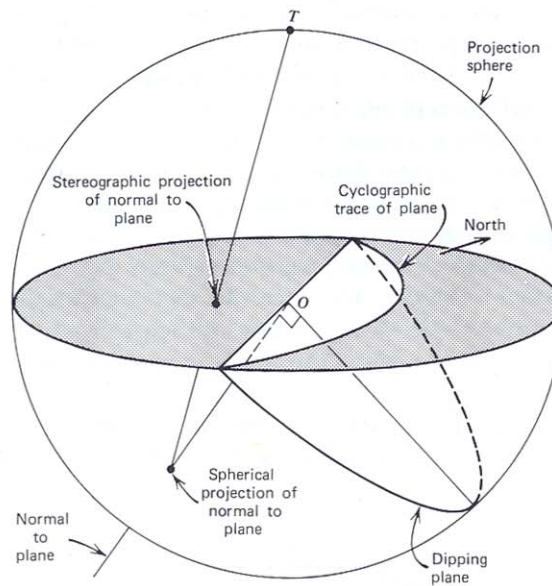
**Anticline** (taken from Earth Science Australia website: <http://earthsci.org/index.html#Enter>)



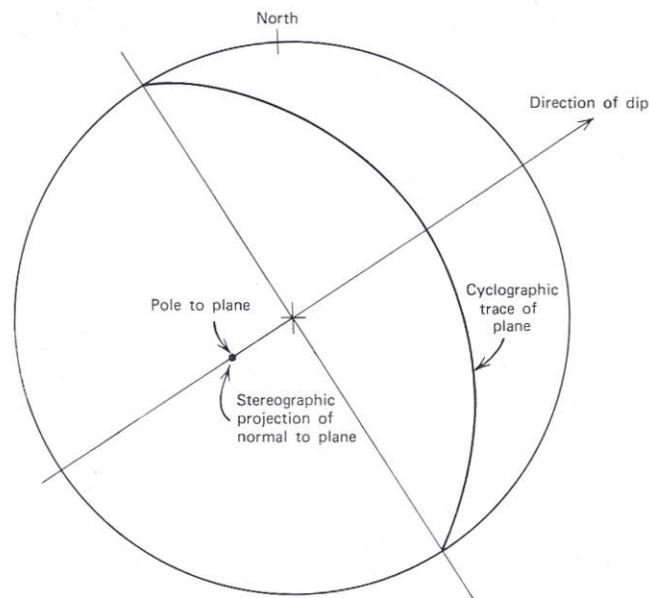
**Syncline** (taken from Earth Science Australia website: <http://earthsci.org/index.html#Enter>)





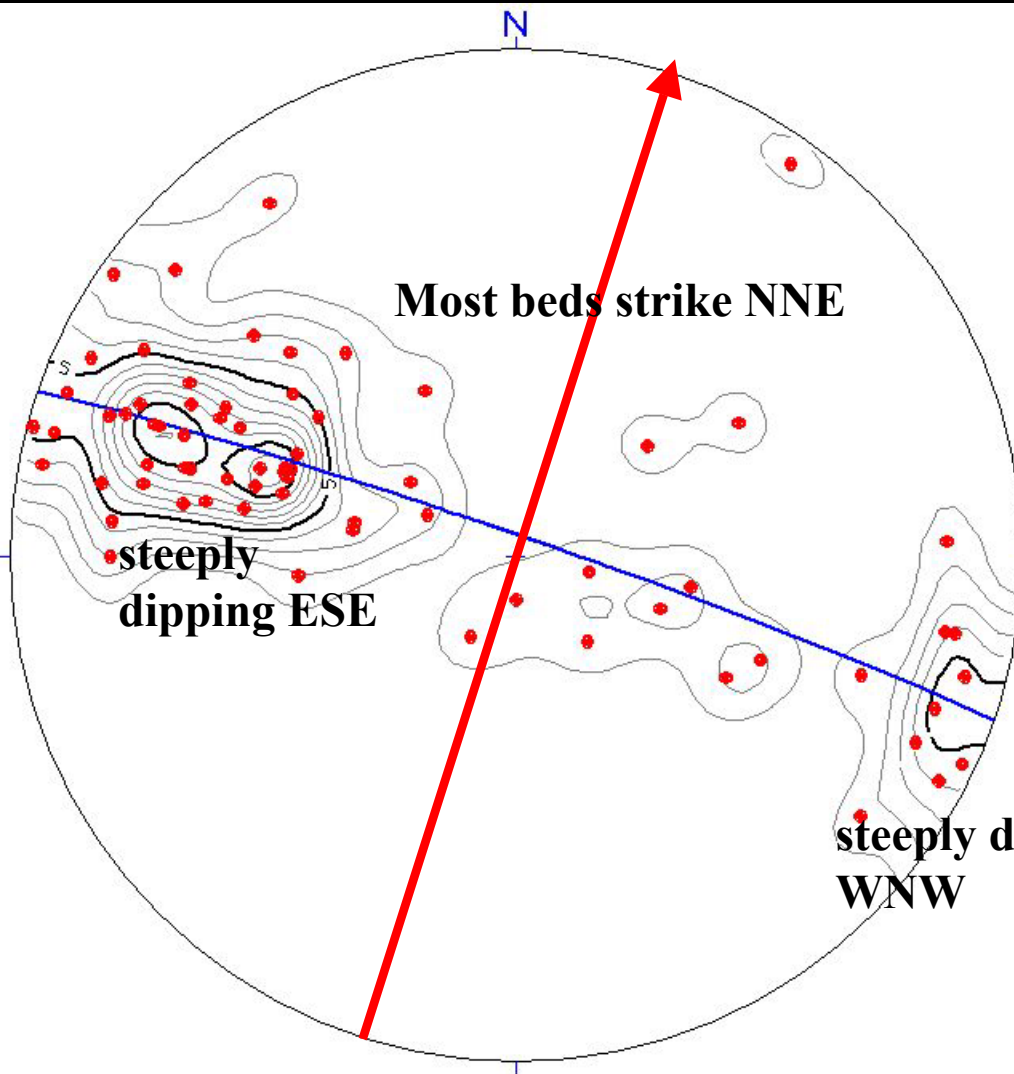


(a)



(b)

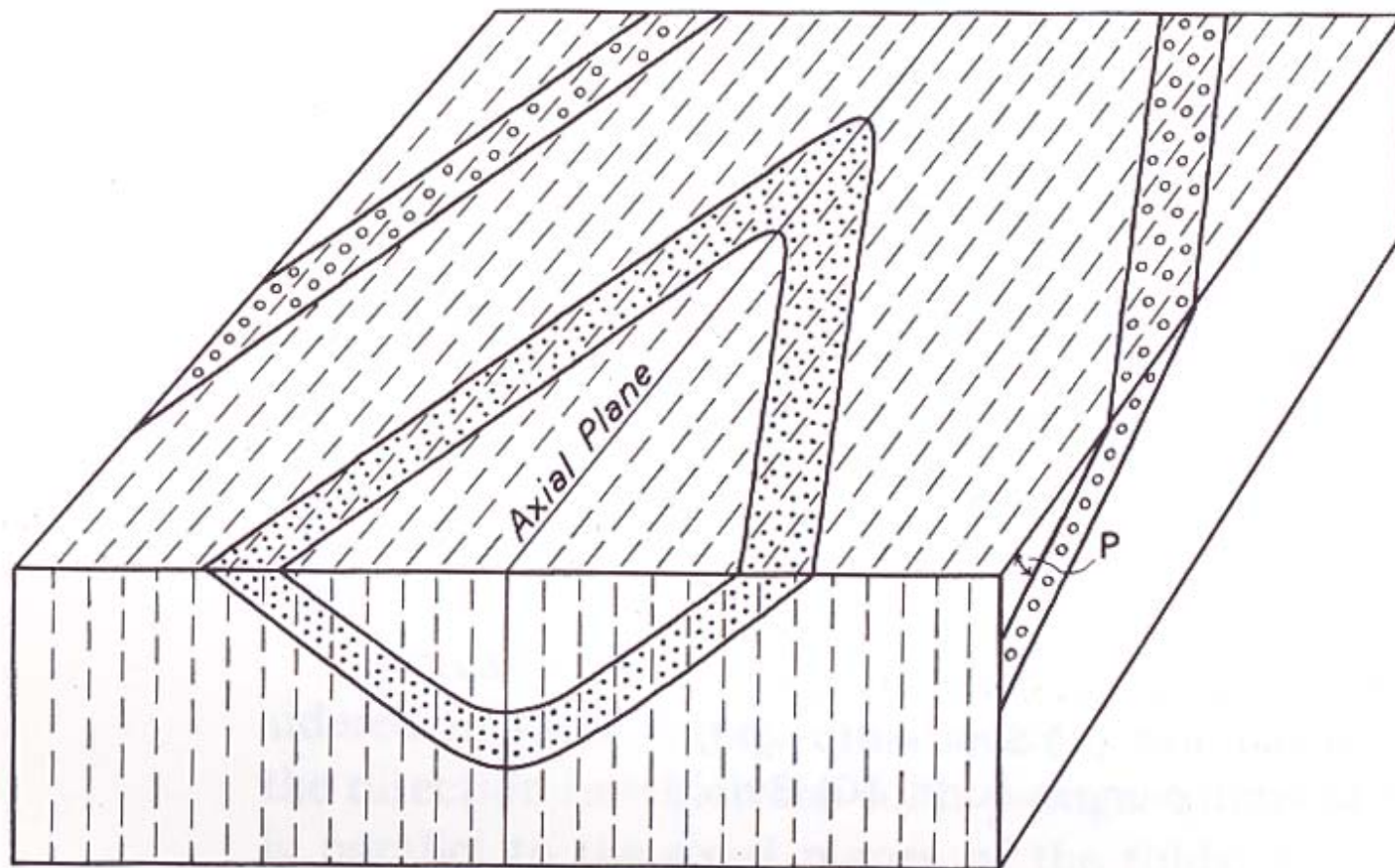
FIGURE A6 (a), (b) The stereographic projection of a plane and of the normal to that plane.



Projection .....	Schmidt (Equal Area)
Number of Sample Points ....	73
Mean Lineation Azimuth .....	290.7
Mean Lineation Plunge .....	27.5
Great Circle Azimuth .....	289
Great Circle Plunge .....	86.7
1st Eigenvalue .....	0.703
2nd Eigenvalue .....	0.253
3rd Eigenvalue .....	0.044
LN ( E1 / E2 ) .....	1.024
LN ( E2 / E3 ) .....	1.75
(LN(E1/E2)] / (LN(E2/E3)) ..	0.585
Spherical variance .....	0.3754
Rbar .....	0.6246

**Poles to planes: bedding**



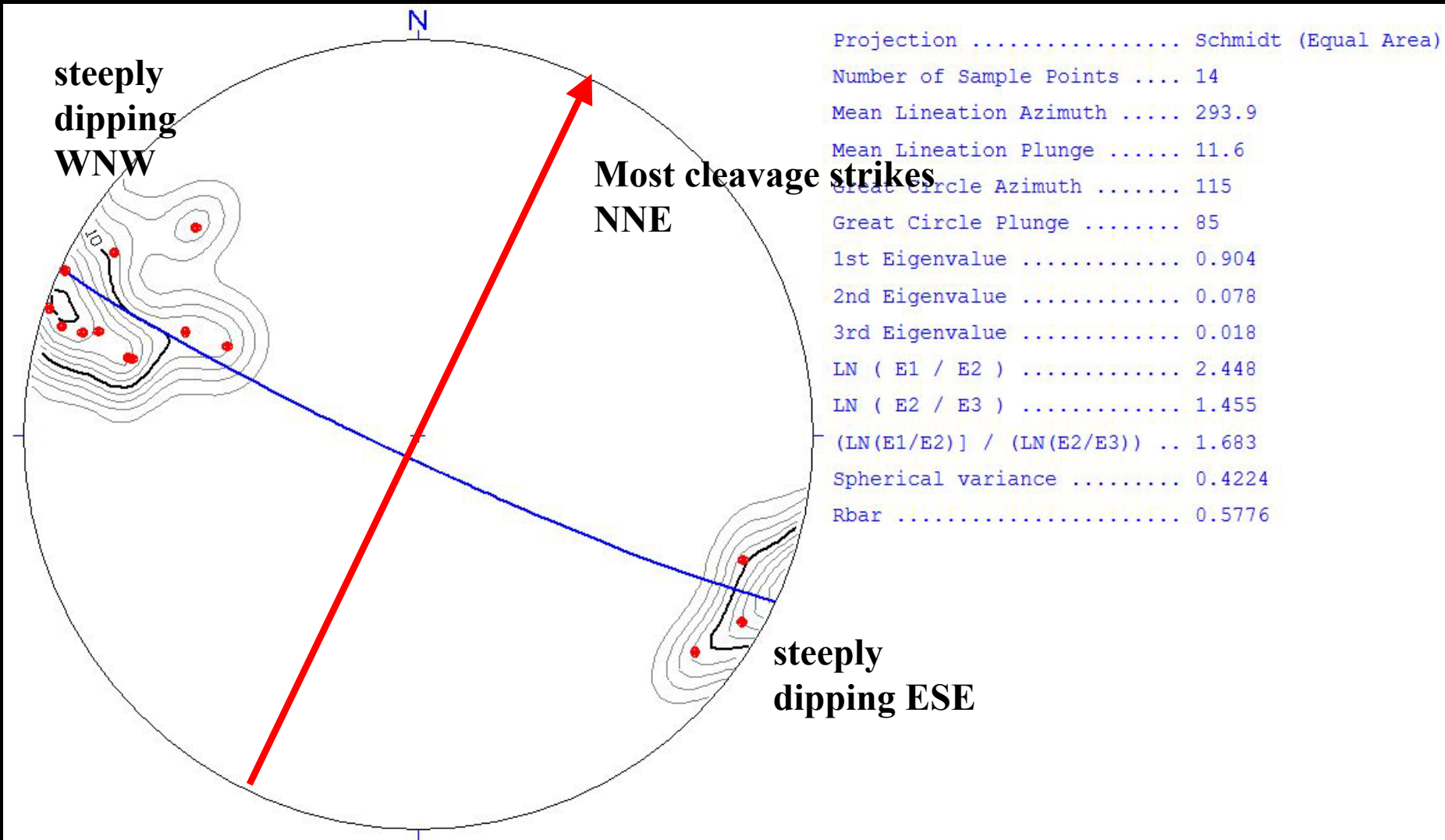


**Fig. 18-10.** Three-dimensional representation of slaty cleavage. Cleavage represented by broken lines. Value of plunge of fold is equal to  $P$ , which is measured on the cleavage; it is the angle between the trace of the bedding and a horizontal line.



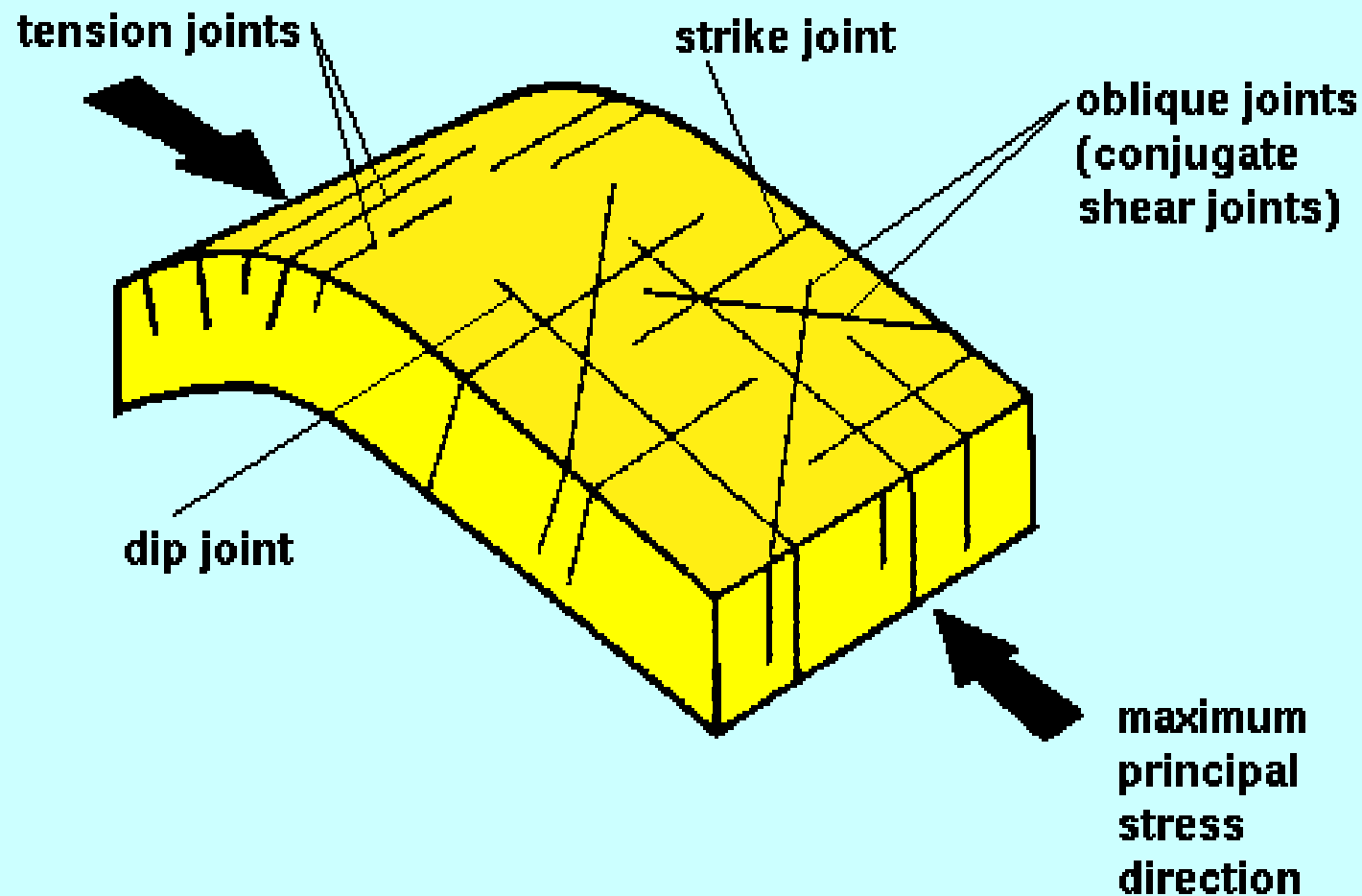


**Cleavage and bedding in Stonehenge Limestone**



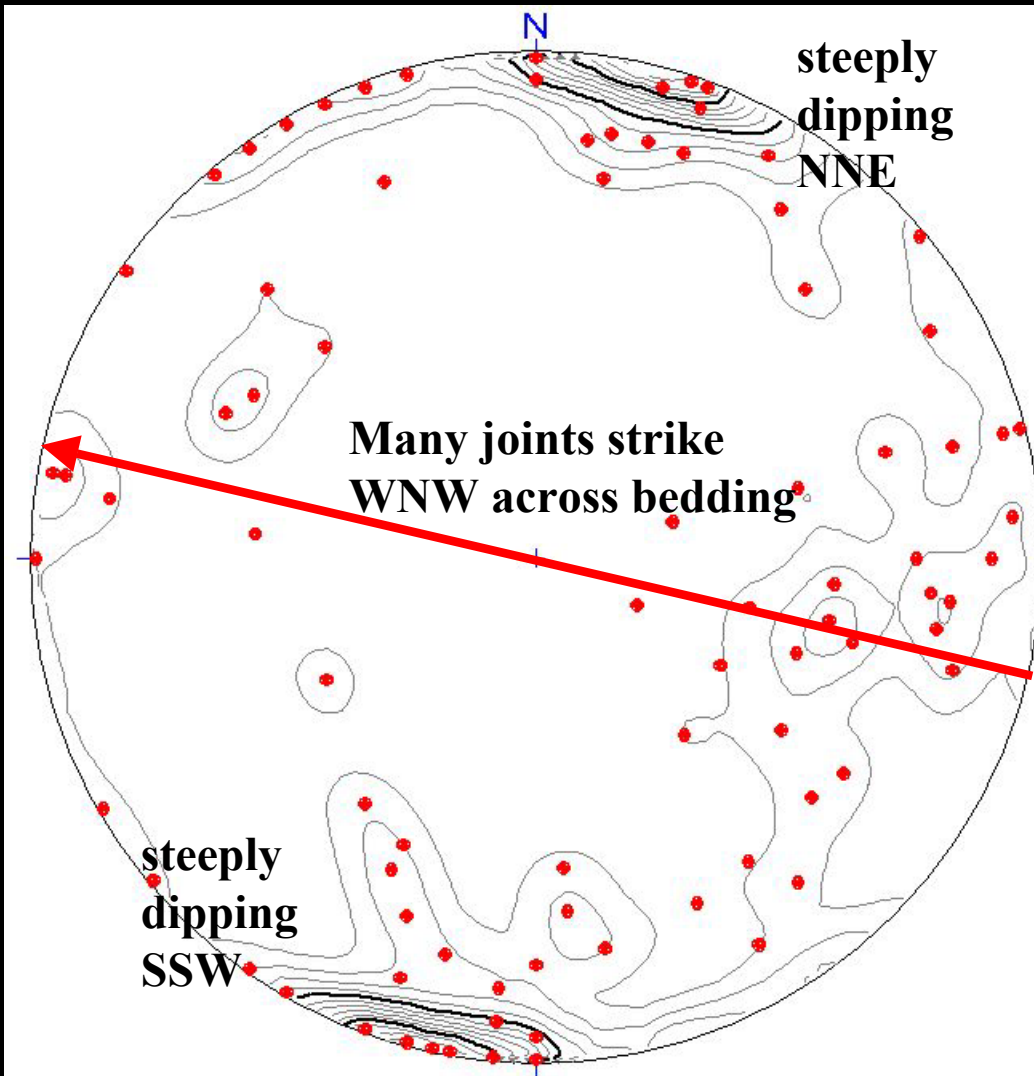
**Poles to planes: cleavage**





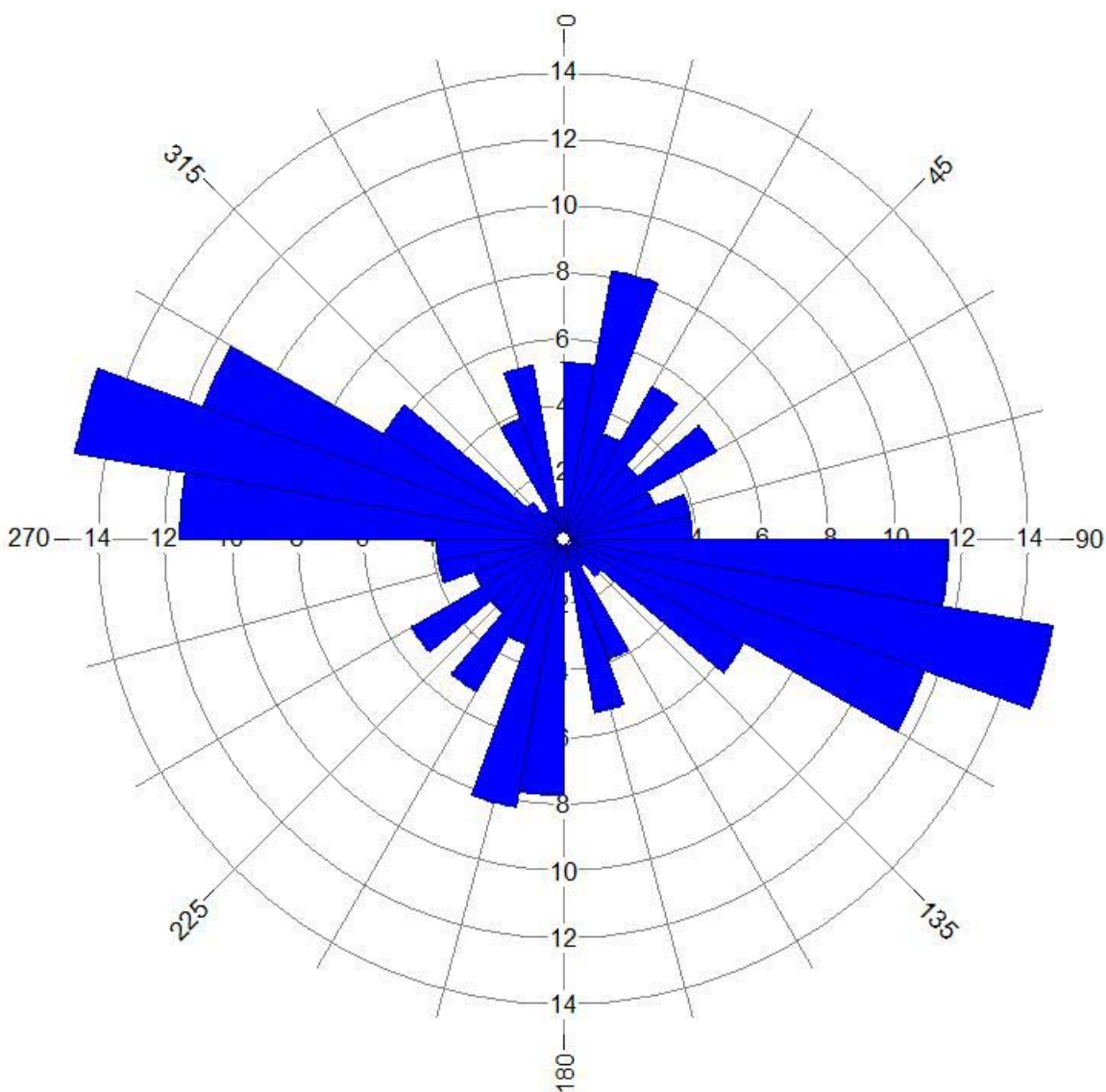
**Joints and folds** (taken from Earth Science Australia website: <http://earthsci.org/index.html#Enter>)





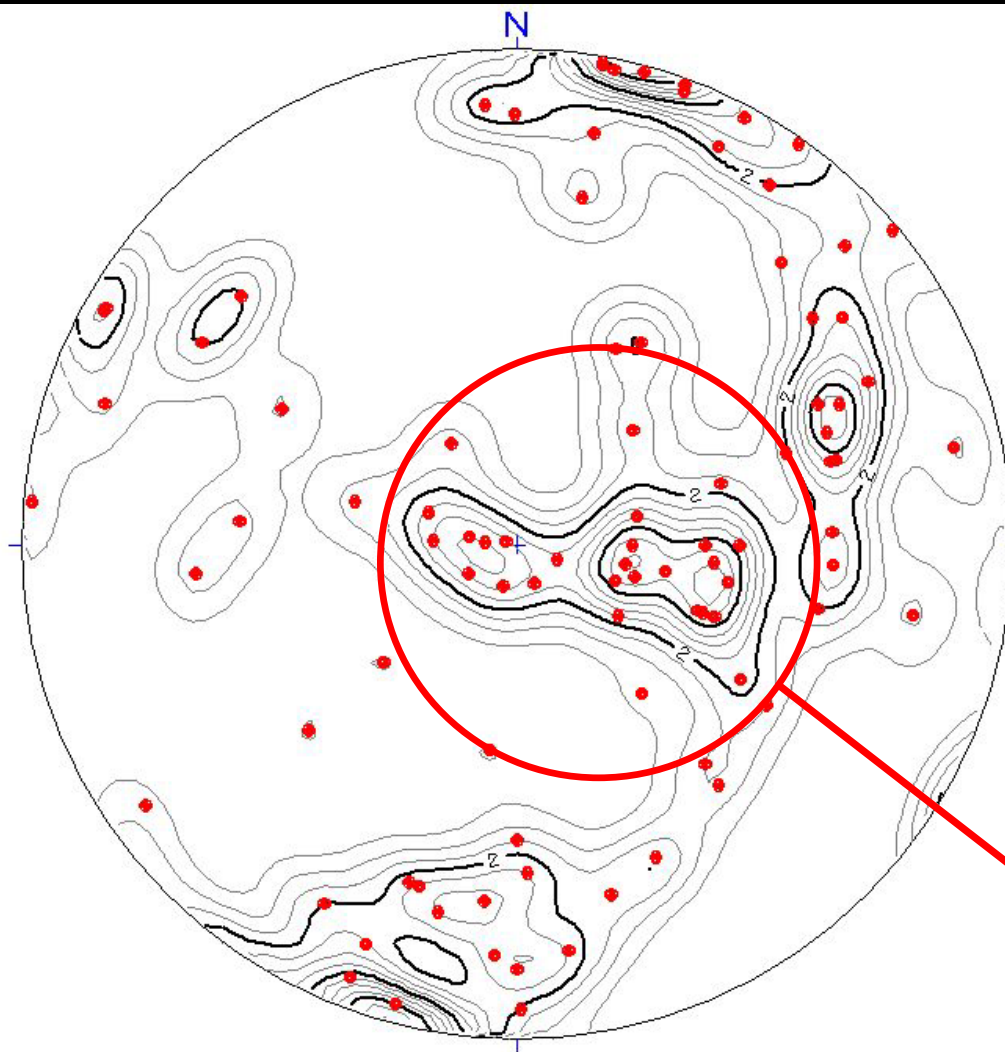
Projection .....	Schmidt (Equal Area)
Number of Sample Points ....	208
Mean Lination Azimuth .....	186.8
Mean Lination Plunge .....	4.2
Great Circle Azimuth .....	20.6
Great Circle Plunge .....	17.4
1st Eigenvalue .....	0.552
2nd Eigenvalue .....	0.328
3rd Eigenvalue .....	0.12
LN ( E1 / E2 ) .....	0.521
LN ( E2 / E3 ) .....	1.002
(LN(E1/E2)) / (LN(E2/E3)) ..	0.52
Spherical variance .....	0.7142
Rbar .....	0.2858

**Poles to planes: joints**



Calculation Method .... Frequency  
 Class Interval ..... 10 Degrees  
 Length Filtering ..... Deactivated  
 Azimuth Filtering ..... Deactivated  
 Data Type ..... Bidirectional  
 Population ..... 208  
 Maximum Percentage .... 14.9 Percent  
 Mean Percentage ..... 5.5 Percent  
 Standard Deviation .... 3.82 Percent  
 Vector Mean ..... 86.64 Degrees  
 Confidence Interval ... 6.56 Degrees  
 R-mag ..... 0.7

**joint traces**



Projection ..... Schmidt (Equal Area)  
 Number of Sample Points .... 192  
 Mean Lineation Azimuth ..... 58.1  
 Mean Lineation Plunge ..... 45  
 Great Circle Azimuth ..... 21.9  
 Great Circle Plunge ..... 59.4  
 1st Eigenvalue ..... 0.429  
 2nd Eigenvalue ..... 0.384  
 3rd Eigenvalue ..... 0.187  
 LN ( E1 / E2 ) ..... 0.111  
 LN ( E2 / E3 ) ..... 0.721  
 (LN(E1/E2)] / (LN(E2/E3)) .. 0.154  
 Spherical variance ..... 0.4711  
 Rbar ..... 0.5289

**Steeply dipping intersections  
of bedding and cross-joints**

**Betapairs: intersections of joints and bedding**





**Outcrop of Stonehenge Limestone**

# Leetown, WV Resistivity Study

- Results of the Audio-magnetotelluric soundings collected during May, 2003

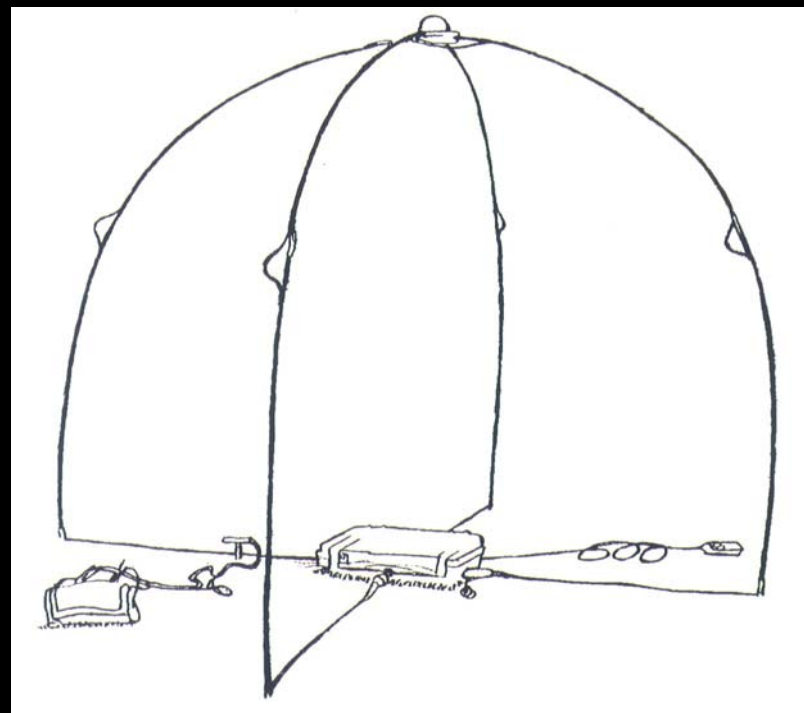
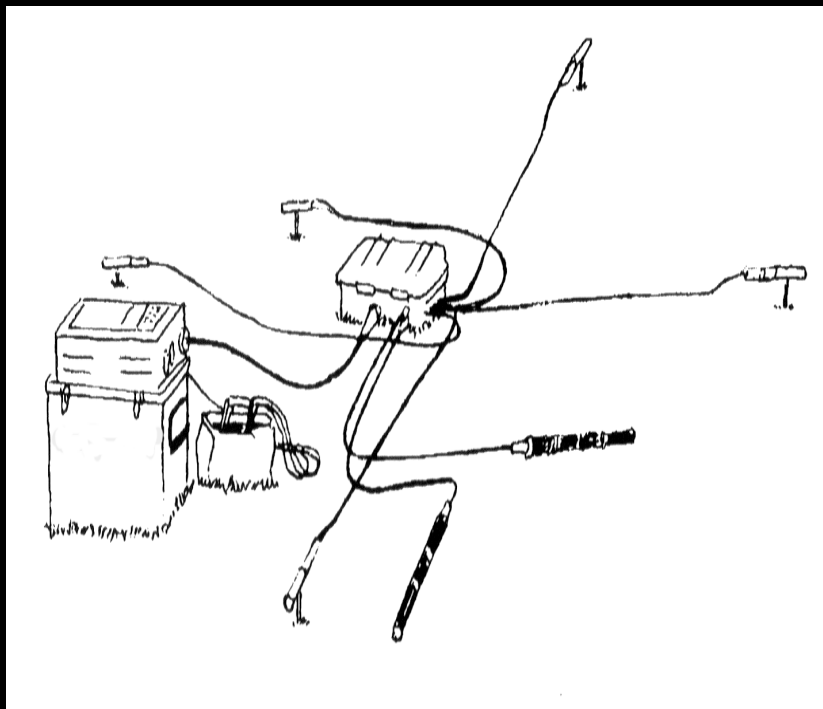


# Geometrics AMT Gear



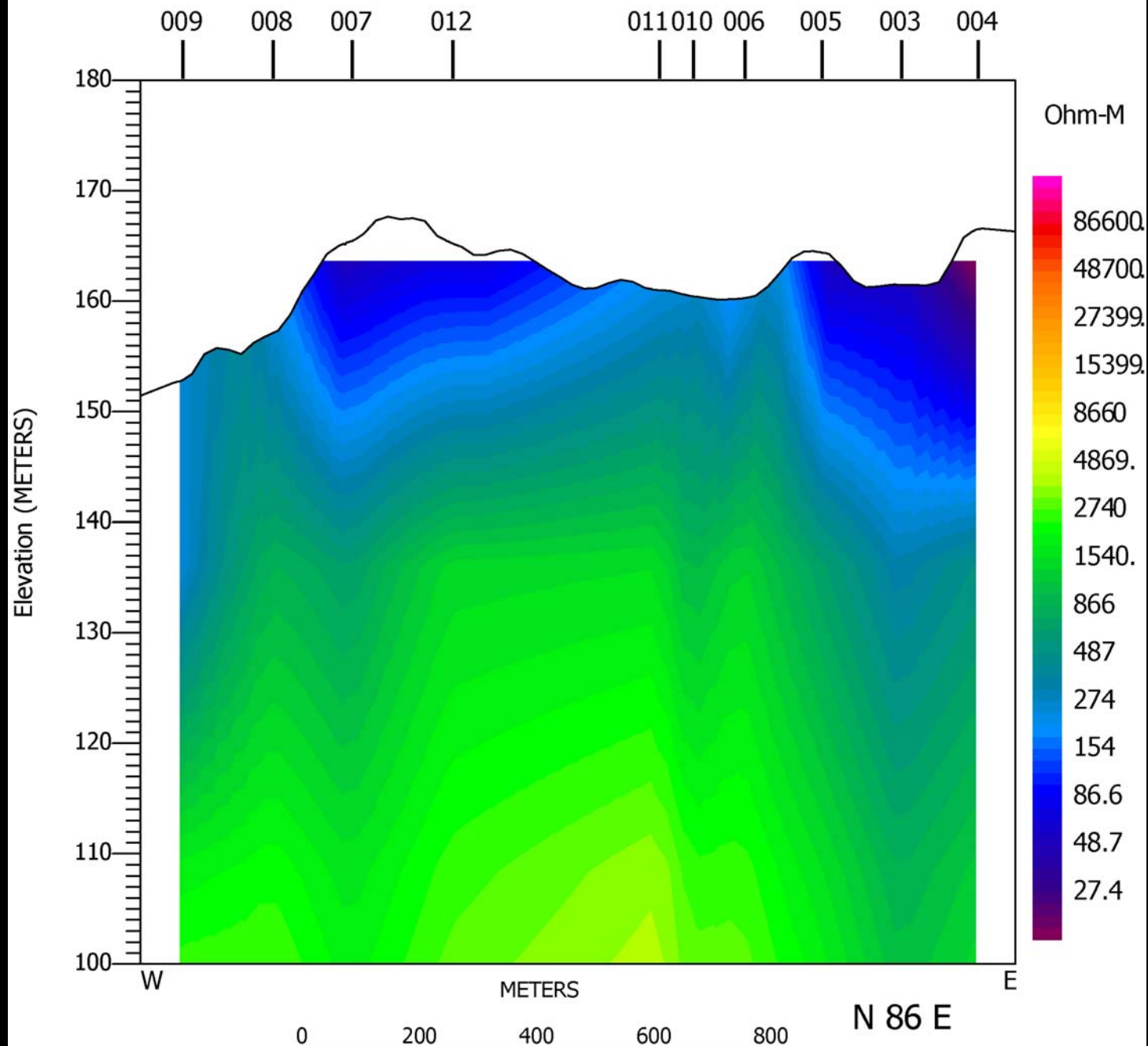


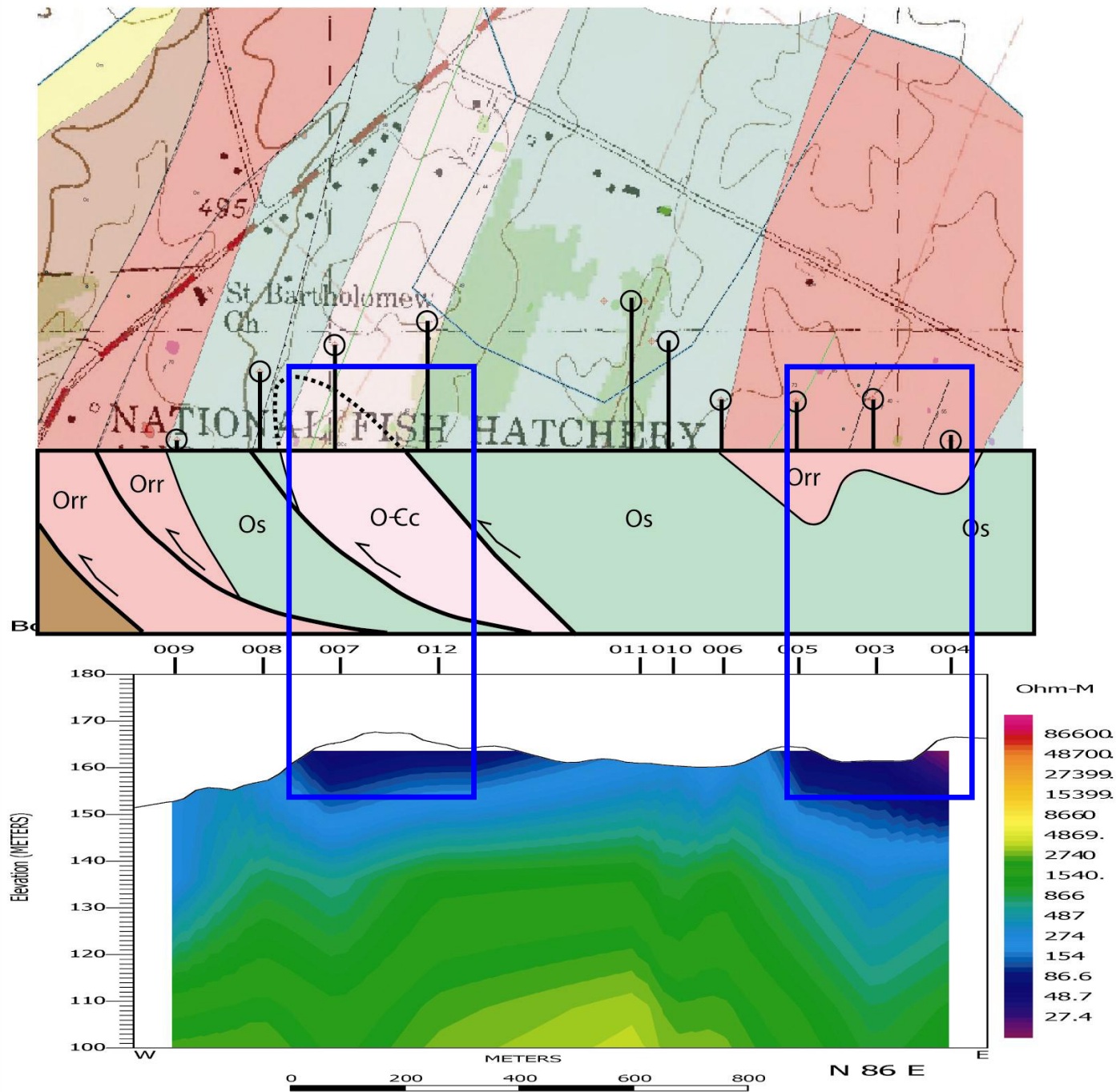
# AMT Gear



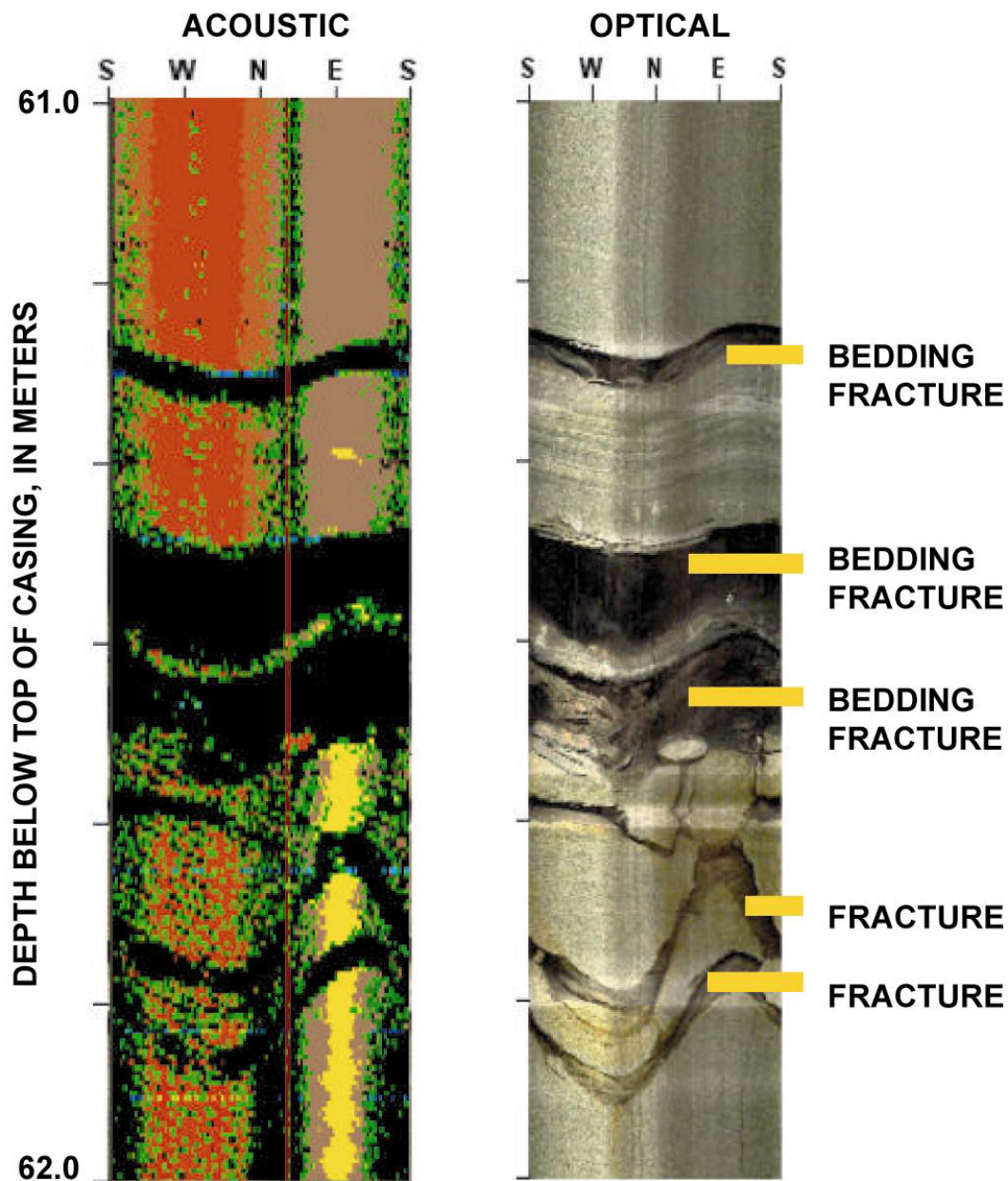
# Bostick Depth Section - BostAAV Res

# Leetown, WV Line 1

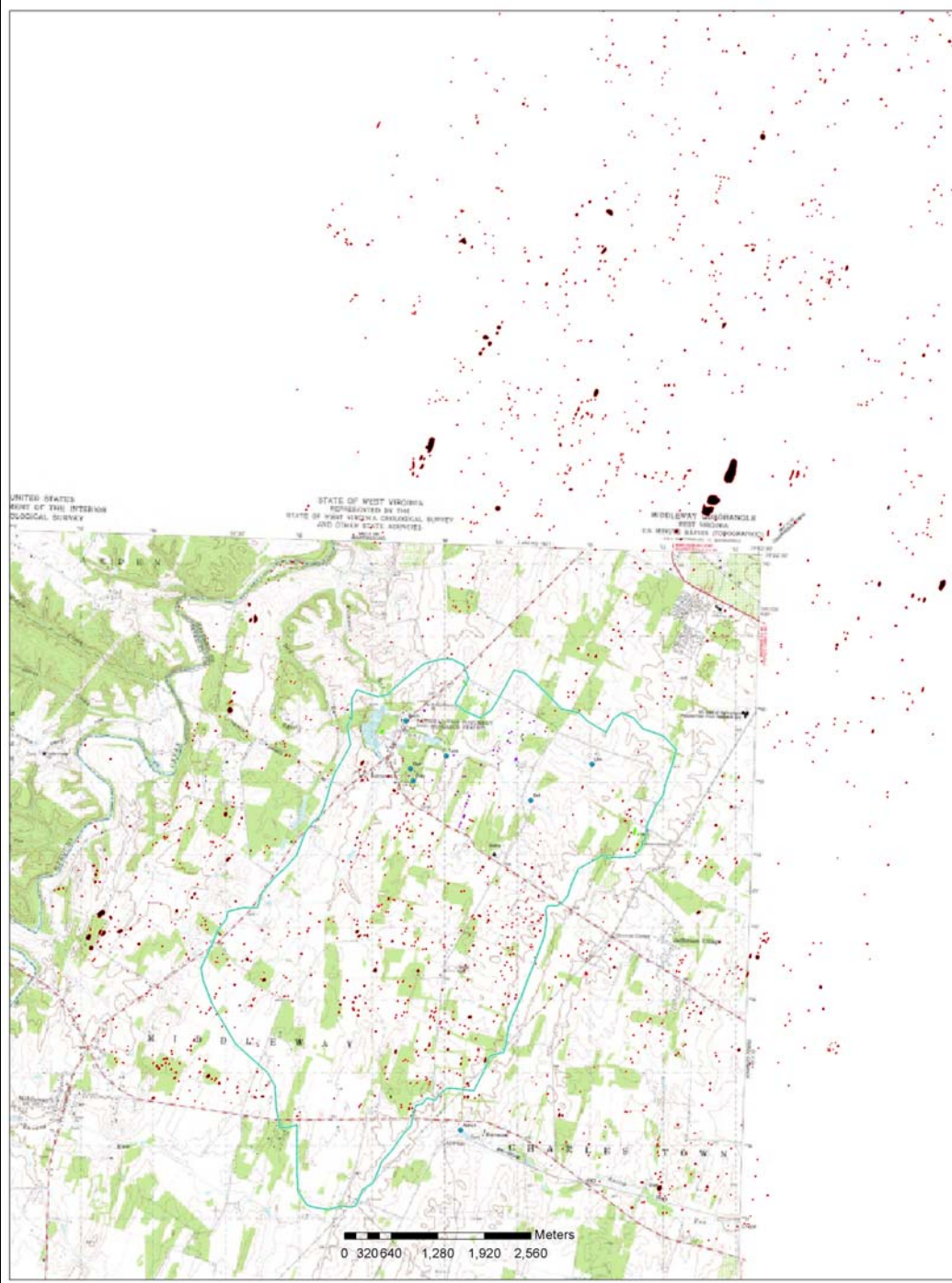




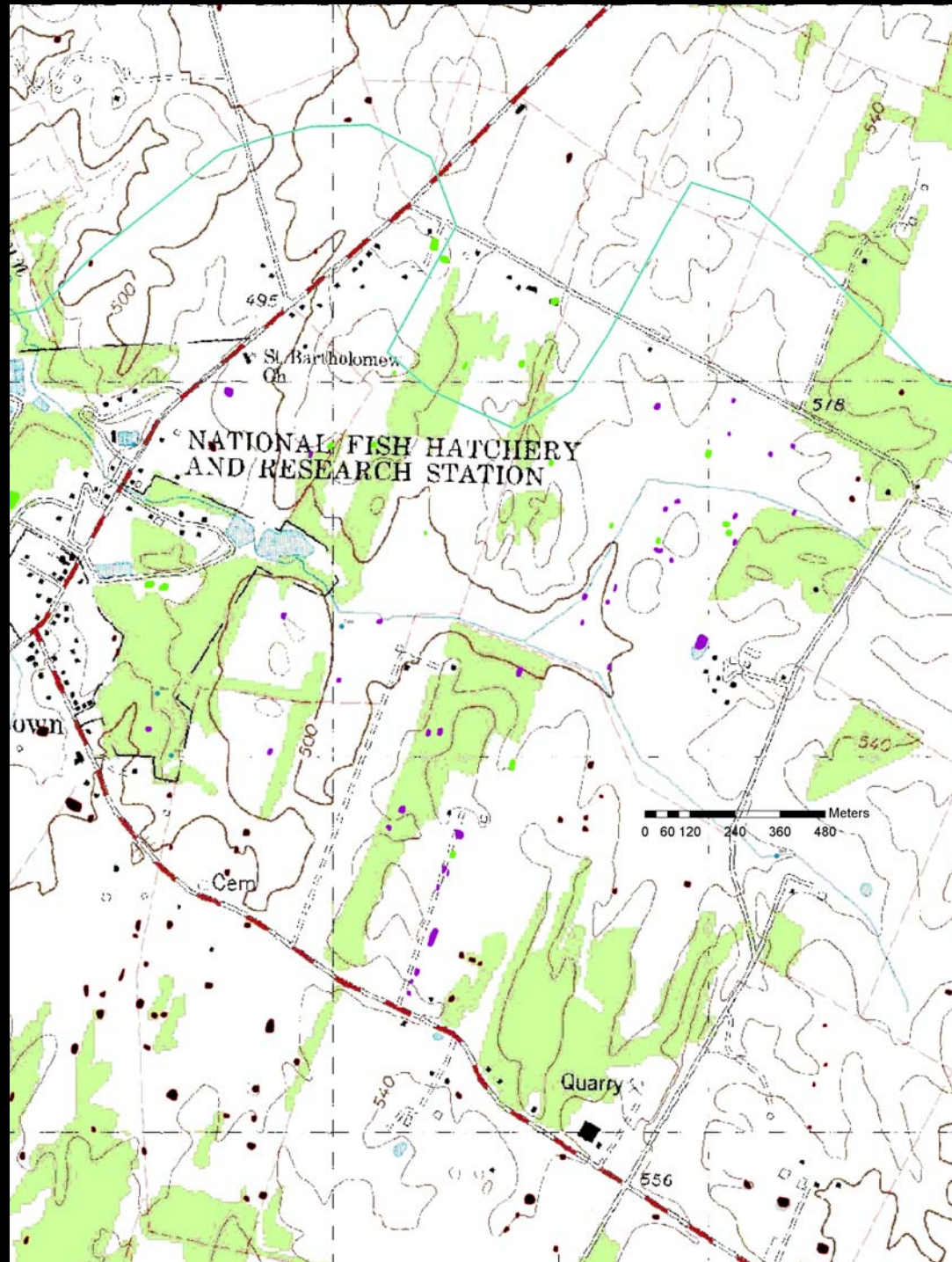




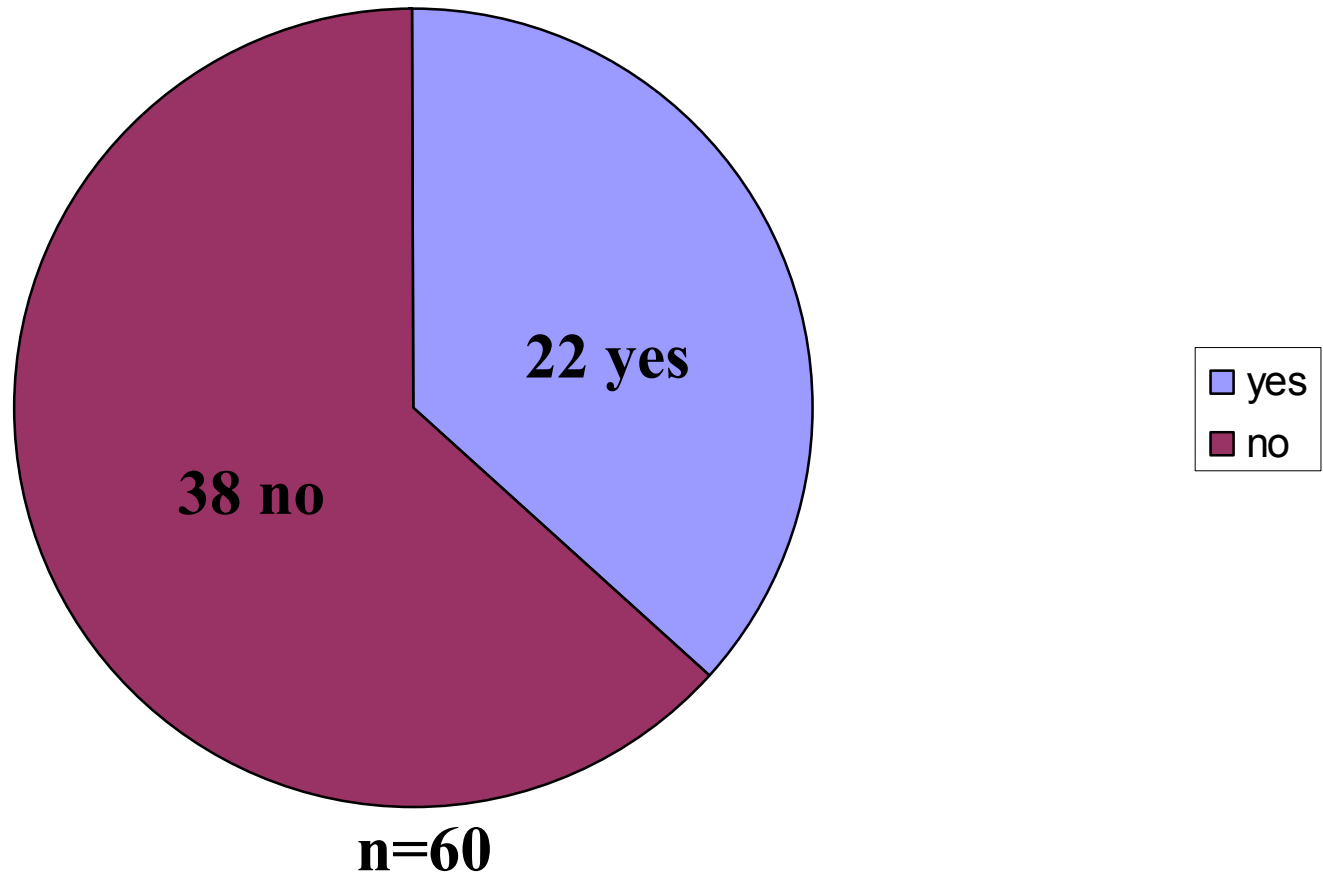
Examples of Acoustic- and optical-televiwer images from a transmissive zone (from Williams and others, 2000, Figure 6)







## Sinkholes verified in the Leetown area:



**Kayse Fisher, UWV thesis: 23 no vs 7 yes**